

(lāng'gwīj) matters

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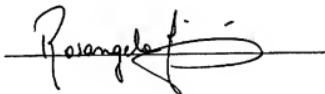
C E R T I F I C A T E O F A C C U R A C Y

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COUNTY OF BOULDER)

ROSANGELA FIORI being duly sworn, deposes and says that she is the Manager of LANGUAGE MATTERS, 1445 Pearl Street, Boulder, CO 80302 and that she is thoroughly familiar with KERILYN SAPPINGTON, who translated the attached document titled:

PUBLICATION NO. 472593

from the TRADITIONAL CHINESE language into the ENGLISH language, and that the ENGLISH text is a true and correct translation of the copy to the best of her knowledge and belief.



Sworn before me this
April 27, 2005



JUDITH E. MORRIS
Notary Public
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My Commission Expires 08/02/2008

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Application date: March 7, 2001

Number: 90203361

Category: A63B22/02

(The column above is completed by this office)

Bulletin

Specifications for New Model Patent		
One. Name of new model	Chinese	Structure of jogging machine with low exercise load 472593
	English	
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Four. Chinese abstract of invention (Name of invention: Structure of jogging machine with low exercise load)

The present invention pertains to the structure of a jogging machine with a low exercise load. It is constructed of a base seat and a framework, wherein said framework further comprises a supporting board body and a loop of running belt wrapped around the outside of said supporting board, and said loop of running belt can sustain dynamic force with corresponding front and back roller wheels pulling to turn the wheels, wherein it mainly is a connecting piece that has been installed at the right location at the back end of said structure only, enabling the pivotal connection to position at the right location on the base seat, and an active top supporting piece installed and connected at the front end of the framework's down side, and making a return piece be further connected at the bottom end of said top supporting piece, then, positioning the return piece at the right location on the base seat; here it relies on the structure described above for its composition, after the front end of the framework sustains force and because the active top supporting piece's simultaneous displacement follows it in a downward incline, again waiting for gravity to gradually lessen, and it further relies on the top elevation function of the return piece to simultaneously return to its original position, thus using said framework it is possible at a specified level for the axis to repeatedly slide up and down in a particular exercise session.

English abstract of invention (Name of invention:)

This case has been forwarded to

National (local) patent application Application date Case number Opinion priority

None

Five. Invention specifications (1)

The present invention pertains to a running machine, further details reveal that the new invention indicates a framework that enables the subsequent stress to produce changes to the angle of incline and greatly reduce the runner's exercise load for a particular session.

Accordingly, the framework of running machines during use generally maintains a stable angle, thus whenever users are engaged in running exercise it is equal on level ground or sloping ground and gradually during running there is no clear difference. Of course this level of exercise and physical agility is not too great of a burden for ordinary people; however, for those whose physical agility is poor (for example, for obese persons or for people with mild chronic cardio-pulmonary disease), it's possible that in terms of the physical force load, they may be unable to sustain the exercise for a long time, thus they cannot achieve the level of exercise they need and they miss out on the anticipated health results of exercise.

In like manner, according to Figure 3, is one type of treadmill structure, that is, U.S. Patent Invention Number **5626539**. Said type of treadmill 10 structure has installed one rotatable belt 16 on running tread 12 and 14, allowing the user during the stepping process to simultaneously produce a similar sliding movement, it is just that during use of the conventional treadmill 10, because treads 12 and 14 are alternately installed two independent treads, thus creating an interval between the two alternating treads 12 and 14, during the belt 16 rotation process, if the user's foot does not cautiously tread at the time of said interval, often it easily creates a "gap" that causes injury; furthermore during stepping this type of exercise equipment is still similar to running or climbing, the user must first elevate the foot and exert force to step on the position at a higher point for the corresponding tread 12 (or 14) to adequately enable said tread 12 (or 14) to subsequently move further downward and return to again take the body weight (namely, the upward elevation gravity) and move the entire amount onto the tread 12 (or 14), to make the other tread 14 (or 12) simultaneously produce the upward movement path. This repetition gradually anticipates

Five. Invention specifications (2)

that the user's foot area is placed up in the same way during the exercise session only for the upward movement of tread 14 (or 12), therefore the weight of the foot of course adds to the load for the user, simply speaking, this type of treadmill 10 or conventionally known running machine, although in fact it can produce definite exercise results, it cannot effectively distribute the load of the user in terms of upward elevation of gravity during the exercise process, thus there is no way to help the user maintain exercise for a long period of time.

Herein, to improve the disadvantages of the aforementioned conventionally known invention during use, the inventors relied on familiarity of many years of experience in this industry and active efforts devoted to research and development, and finally developed the present invention. Its main objective is to make said exercise equipment during the usage process suitably and accurately reduce the load produced by the user's own body weight, the weight produced by the upward elevation gravity load to thus be more relaxed and happy when engaging in exercise health activities for a sustained period of time, enabling those with a special physical agility condition or those of various ages to use this type of exercise or health machine to meet their needs for the benefits of exercise in a safe and healthy way.

To increase understanding of the technical methods and structural characteristics of the present invention, corresponding details are hereby presented below:

- Figure 1. Is a combination lateral view of the preferred embodiment of the present invention.
- Figure 2. Is a movement view of Figure 1's preferred embodiment of the present invention.
- Figure 3. Is an external view of the conventionally used invention.

First, please review corresponding preferred embodiments in Figures 1 and 2, mainly comprised of a base seat 20 and a framework 30, wherein

Five. Invention specifications (3)

said framework 30 further includes the supporting tread body 31 and the running belt loop 32 wrapped outside said supporting body 31, and said running belt loop 32 can sustain a dynamic force (for example, a motor, not shown in the illustration) and corresponding front and rear roller cylinder 33 and 34 pulling and rotating, characterized by:

The rear end of said framework 30 has attached at a suitable location linking piece 35, enabling the pivot connection to be positioned at the base seat 20 relative to the suitable location, and the framework 30's front end downside then installed in connection has an active top supporting piece 40, and causing said top supporting piece 40's bottom end to have a return piece 50 additionally connected; later, the return piece 50 is again positioned on a suitable location at the base seat 10; here, it relies on the aforementioned structural piece for its construction, after the front end of framework 30 sustains force, further taking subsequent downward slant because of the active top supporting piece 40's simultaneous displacement, repeat supporting gravity gradually lessens (namely, the running belt loop 32 rotates taking the user's foot exerting force and moving it back to the rear side of framework 30, thus according to the sequential loop movement), furthermore it can rely on the top elevating function of the return piece 50 and simultaneously return it to its original position, thus making said framework 30 able at a specified axis to slide in a specific repeated upward and downward exercise course.

It is easy to say that when the user puts both feet into position on the running belt loop 32 at the rear end and prepares to engage in running exercise, the framework 30 position is maintained at the original angle of incline position, when the repeat user starts running and take one step on the running belt loop 32's front end, said framework 30 takes the pivotal connection point A produced as a consequence of gravity, the rotating axis on a downward movement (namely, the framework 30 is presenting in a downward incline state), in this manner, it more smoothly enables the user to bear his/her bodyweight, thus avoiding the need to have the user's weight (namely, bodyweight) be a load to bear as it elevates upward; yet still ensure the expected exercise results.

The previously described specific axis may indicate pivotal connection point A as the base standard and with the ground supporting level form an imaginary line A - A, or using the rear roller cylinder 34 in framework 30

Five. Invention specifications (4)

center axle **B** as the base standard, and with the ground maintain another imaginary line **B** - **B**, thus making the framework 30 able at any one specific level of upward and downward axis previously described to engage in uniform upward and downward oscillation, relying on the use of the framework 30 for the downward movement process and invisibly consuming the user's gravity load.

Of course, perhaps the esteemed examiner believes that this use of return piece 50 to make the framework 30 return to its original location is the same technical category as that used for the general exercise equipment shock absorbing structure (according to the conventionally known patent in U.S. Patent Number **4974831**); however, the inventors must make particular emphasis that the so-called shock absorbing structure is merely one that causes the framework to be able to effectively reduce the structure's applied force during stress, therefore its shock absorbing path (namely, the framework's displacement path) is extremely minute and not clear. On the contrary, the present invention uses precise rules for a greater displacement process, and it must consume all of the user's upward rising gravity during the exercise process and thus demonstrate new objectives and functions. Clearly the two are truly not the same and we ask for your further review.

Generally speaking, the present invention is in fact a practical and advanced design. Not only has it not been seen in any publication, it has not been properly produced and developed. In accordance with the patent application claims, we consequently submit the application and ask the examiner to grant the patent as soon as possible, with our gratitude.

Brief description of the illustrations:

10: Treadmill 12, 14: Tread 16: Belt 20: Base seat
30: Framework 31: Supporting tread 32: Running belt loop 33: Front roller cylinder
34: Rear roller cylinder 35: Connecting segment 40: Active top support 50: Return piece
A: Pivotal connection point B: Center axle

Five. Invention specifications (5)

Six. Scope of patent application

The present invention pertains to the structure of a jogging machine with a low exercise load, it is mainly constructed of a base seat and a framework, wherein said framework further comprises a supporting board body and a loop of running belt wrapped around the outside of said supporting board, and said loop of running belt can sustain dynamic force with corresponding front and back roller wheels pulling to turn the wheels, characterized by:

Said framework has a connecting piece that has been installed at the right location at the back end of said structure, enabling the pivotal connection to position at the right location on the base seat, and an active top supporting piece installed and connected at the front end of the framework's down side, and making said return piece be further connected at the bottom end of said top supporting piece, then, positioning the return piece at the right location on the base seat; here, it relies on the structure described above for its composition, after the front end of the framework sustains force and because the active top supporting piece's simultaneous displacement follows it in a downward incline, it again waits for gravity to gradually lessen, and it relies on the top elevation function of the return piece to simultaneously return to its original position, thus using said framework it is possible at a specified level for the axis to repeatedly slide up and down in a particular exercise session.

Figure 1

Figure 2

Figure 3

申請日期：90.3.1	案號：90203361
類別：A63B 22/6	

(以上各欄由本局填註)

公告本

新型專利說明書

一 新型名稱	中文	低運動負荷之跑步機結構
	英文	472593
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	代表人 姓 名 (中文)	1. 王國樑
代表人 姓 名 (英文)	1.	



四、中文創作摘要 (創作之名稱：低運動負荷之跑步機結構)

本創作係有關於一種低運動負荷之跑步機結構，其係由一底座及一框架所構成，其中，該框架更包括有支撐板體及圍繞於該支撐板體外周之跑步循環帶，且該跑步循環帶係可受動力體配合前、後滾輪之牽引而輪轉，惟其主要係於該框架後端適處設有連結片，俾框架定位於底座相適處，而框架前端下方則連結有一活動頂持件，並令該頂持件之底端又連結有一歸復件，之後，再將歸復件定位於底座之適當位置上；是，藉上述構件之組裝，當框架受力後，便將因活動頂持件之同步位移而隨之向下傾斜，復待重力逐步減輕，又可藉歸復件之頂昇作用而同步回復原位置，從而使該框架能在一特定水平軸線作反覆地上、下擺動之特殊運動行程者。

英文創作摘要 (創作之名稱：)



本案已向

國(地區)申請專利

申請日期

案號

主張優先權

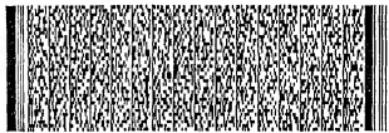
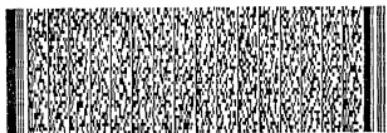
無

五、創作說明 (1)

本創作係與跑步機有關，更詳而言之，特別係指一種可令框架隨受力而產生傾角變化，從而形成特殊運動行程以大幅減輕跑步者運動負荷之新穎創作。

按，一般跑步機之框架在使用中均恆常保持一固定角度，因此，使用者於其上進行跑步運動時，便等同於在等成輕會有運動及體能消耗的狀態就一般常人而言，或許並不會造成太大的負擔，然而就體能狀況較差者而言（如肥胖者、微慢性心肺疾病患者等等），則可能在體力負荷能力上造成運動時間的無法持久，進而也就不能符合及達到應有的運動量，乃致喪失預期的運動健身效果。

同理，如圖三所示所之一種踏步機結構，係美國第 5 626539 號之專利創作案，該種踏步機 10 結構係於二踏步板 12、14 上各設一可輪轉之帶體 16，令使用者在踏過程中，能同時產生近似於滑移之動作，惟此一獨立之板體 10 於使用時，因為該踏步板 12、14 係由二相鄰之踏步板 12、14 間存在一『間隙』，而在該帶體 16 輪轉的過程中，若使用者之腳部不慎進入該間隙處時，往往容易造成受傷之情事；又，此等器材在踩踏時，仍舊有如跑步或爬坡一般，使用者必抬高腿部並施力於位於相對高點之對應踏步板 12（或 14），方得以令該踏步板 12（或 14）隨之下沉，復再將身體重量（即上提重力）全數挪移至該踏步板 12（或 14）上，以使另一踏步板 14（或 12）同步產生上移行程，如此反覆遂行預期之



五、創作說明 (2)

運動行程，惟踏步板14(或12)在上移之行程中，使用者之腳部亦同樣置於其上，故其腳部之重量當然也必需由使用者加以負荷，簡言之，此等踏步機10或習知之跑步機實能產生一定程度之運動效果，但卻無法在運動過程中有效分擔使用者於上提重力方面之負荷，進而無法幫助使用者維持運動持久性者。

是，為改善上述各項習用同類型創作於使用上之缺失，創作人乃憑藉其多年來熟執此業之實務經驗積極潛心研究開發，終研創出本創作，故其最主要之目的乃係為使用者減輕使用運動器材能被使用的過程中，適度且確實地減輕使用者因自身體重所產生之上提重力負荷，進而能以較輕鬆、悅的心情實施較長時間的運動健身活動，俾使體能狀況為特殊者或各年齡層大眾，均能獲得該等運動健身器材能賦予使用者安全、健康等眾多有關健身方面之好處者。

為使進一步深入瞭解本創作之技術手段與結構特徵，茲配合圖式詳述於後：

圖式之簡單說明：

第一圖：係本創作一較佳實施例之組合側視圖。

第二圖：係依第一圖所示較佳實施例之作動示意圖。

第三圖：習用創作外觀示意圖。

首先，請配合參閱圖一、圖二所示本創作之一較佳實施例圖，其主要係由一底座20及一框架30所構成，其中，



五、創作說明 (3)

該框架 30 更包括有支撑板體 31 及圍繞於該支撑板體 31 外周之跑步循環帶 32，且該跑步循環帶 32 係可受動力體（如馬達等，未示於圖）配合前、後滾筒 33、34 之牽引而輪轉，惟其特徵在於：

該框架 30 後端適處設有連結片 35，俾樞結定位於底座 20 相對適處，而框架 30 前端下方則連設有一活動頂持件 40，並令該頂持件 40 之底端又連設有一歸復件 50，之後，再將歸復件 50 定位於底座 10 之適當位置上；是，藉上述構件之組裝，當框架 30 前端於受力後，便將因活動頂持件 40 之同步位移而隨之向下傾斜，復待重力逐步減輕（即跑步循環帶 32 之輪轉將使用者之施力腳向框架 30 後方帶回，如依序循環動作），又可藉歸復件 50 之頂昇作用而同步回復原位置，從而使該框架 30 能在一特定水平軸線作反覆地上、下擺動之特殊運動行程。

易言之，當使用者將雙腳置於跑步循環帶 32 上之後端並準備進行跑步運動時，其框架 30 的位置仍維持原先之傾角位置，復待使用者開始起跑而將一腳踏上跑步循環帶 32 之前端時，該框架 30 將因重力之產生而隨之以後端之樞結點 A 為旋軸而下移（即框架 30 呈下傾狀態），如此，便可順勢承受使用者身體之重心及體重，從而免除使用者將重力（即自身體重）上提所必需承擔之負荷，但卻同樣能保持預期之運動效果。

上述之特定水平軸線可指以樞結點 A 為基準，而與地面保持水平之一假想線 A—A，或是以框架 30 後滾筒 34 中



五、創作說明 (4)

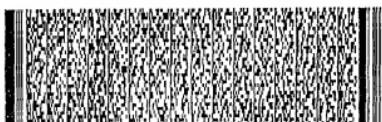
心軸 B 為基準，而與地面保持水平之另一假想線 B—B，進而令框架 30 能在前述之任一特定水平軸線上、下，進行規律之上、下擺動，藉以使在框架 30 下移的過程中，無形地消弭使用者之重力負擔者。

當然，或許貴委員將認為此等利用歸復件 50 以令框架 30 歸復原位之技術類同於一般運動器材所泛用之緩衝機構（如美國第 4 9 7 4 8 3 1 號習知專利案），但創作人必須特別強調，所謂的緩衝機構僅僅是令框架在受力時能有效減輕構件之反作用力，故其緩衝行程（即框架之位行程）極其微小且不明顯，反觀本創作，則係以精確規劃之較大位移行程，以全數消除使用者在進行跑步運動時必定會產生之上提重力，因而展現出新的目的與作用，顯見兩者間實不能被相提並論，此點，還請明鑑。

綜上所述，本創作確實是一極具實用性及進步性之設計，其不僅未見於任何刊物也適於產業之發展性，乃符合專利申請要件，爰依法提出申請，祈請惠予審查並早日賜予專利，至感德便。

圖號之簡單說明：

10：踏步機 12、14：踏步板 16：帶體 20：底座
30：框架 31：支撐板體 32：跑步循環帶 33：前滾筒
34：後滾筒 35：連結片 40：活動頂持件 50：歸復件
A：樞結點 B：中心軸



五、創作說明 (5)



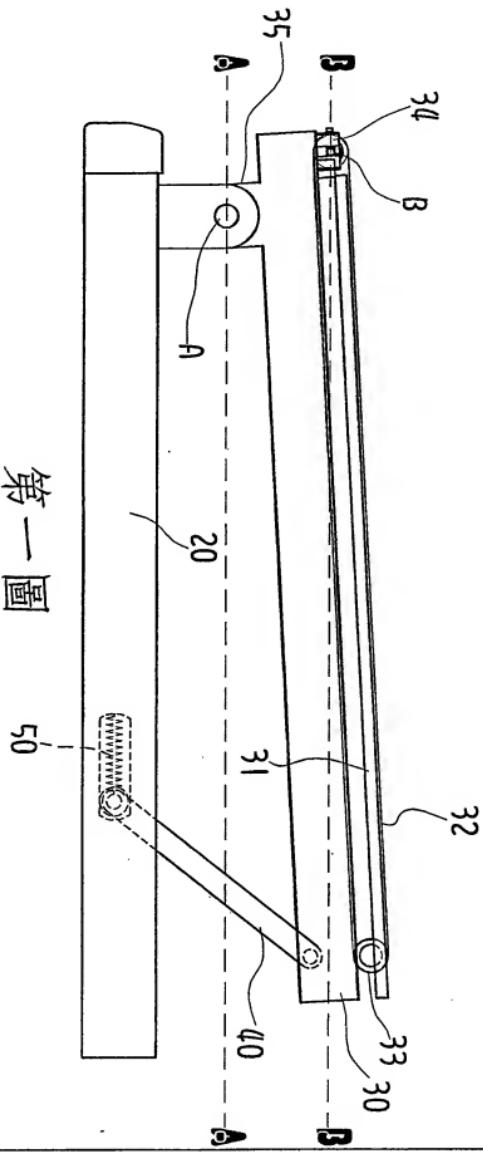
六、申請專利範圍

一種低運動負荷之跑步機結構，其主要係由一底座及一框架所構成，其中，該框架更包括有支撑板體及圍繞於該支撑板體外周之跑步循環帶，且該跑步循環帶係可受動力體配合前、後滾輪之牽引而輪轉，惟其特徵在於：

該框架後端適處設有連結片，俾樞結定位於底座相對適處，而框架前端下方則連設有一活動頂持件，並令該頂持件之底端又連設有一歸復件，之後，再將歸復件定位於該框架前端之上；是，藉上述構件之組裝，當框架於受力後，便將因活動頂持件之同步位移而隨之向下傾斜，復待重力逐步減輕，又可藉歸復件之頂昇作用而同步回復原位置，從而使該框架能在一特定水平軸線作反覆地上、下擺動之特殊運動行程者。



Application No.: 90203361



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九
一

第一圖

90203361

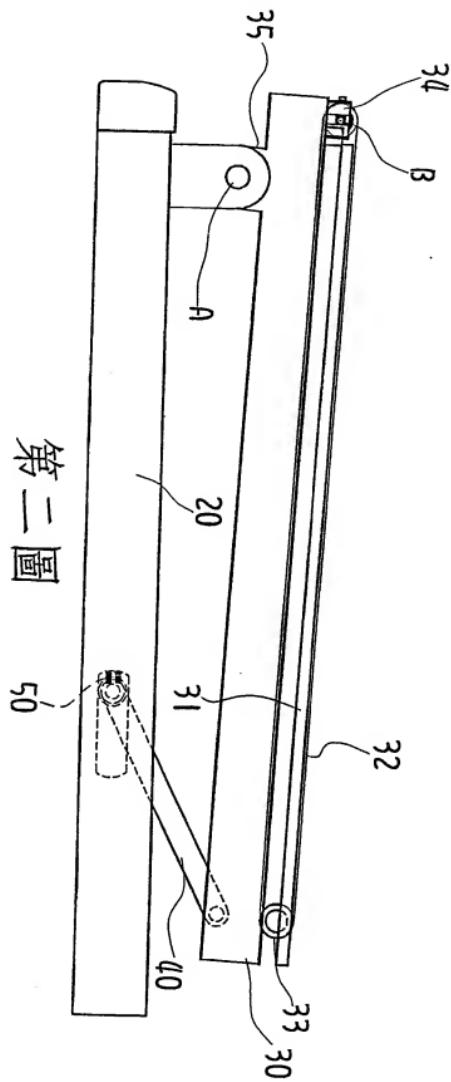
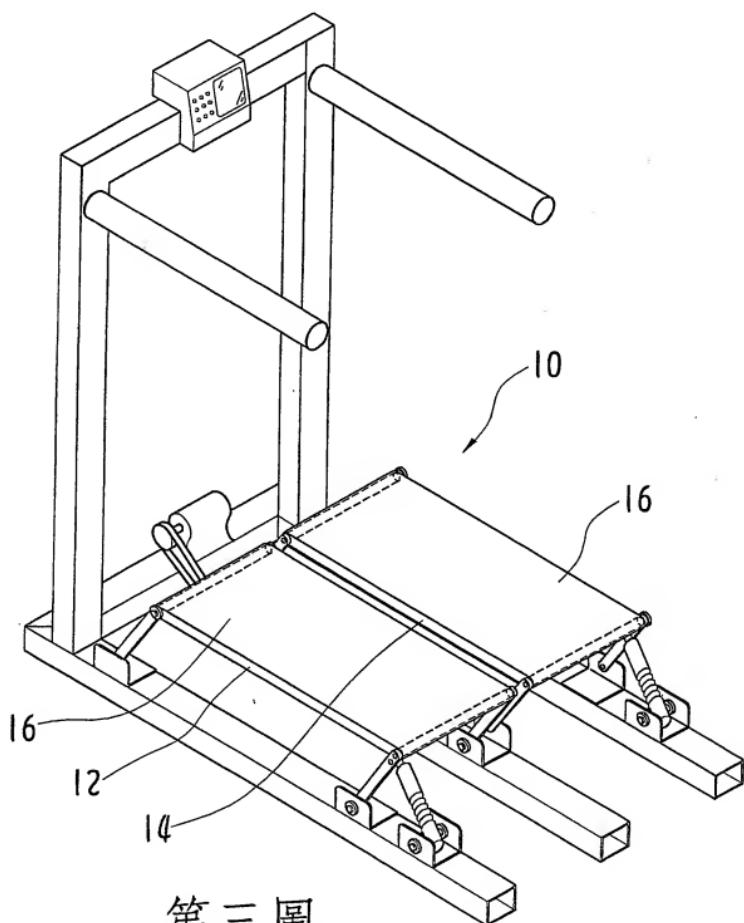


Fig. 2

第二圖



第三圖
PRIOR ART

Fig. 3